

Water Impact on Golf Development and Operations

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From entitlements and permits to direct operating expenses, water influences the economic development and operations of golf facilities in several ways. Specifically, this article addresses the key financial indicators influenced by water and best management practices for facility development and operations. A brief introduction looking at emerging trends related to the use and misuse of water in golf facilities will be presented.

The resort and residential development process and cycle that includes a golf course must consider water availability and cost. In the long-term, water will impact the day-to-day operations of the golf course on a development property. Looking forward, there are several trends for golf development and management that will deal with water, as well as other important economic issues.

Development Process and Cycle

There are certain factors that need to be considered at the very start of a development project that includes golf as an amenity. Developers know that golf is a signal of lifestyle, and their target demographics are age cohorts that are greater than 45 years of age with an average annual household income in excess of \$74,000. There are five to seven market segments which reference golf as a signal of lifestyle. These five to seven segments vary by household net worth, household net income, age at the time of purchase, geography, and last, where children and grandchildren are located. When developers start a project, they pay attention to what their market segments are, and how they are going to attract them. Whether developing resorts or residential communities, there are two vital characteristics that need consideration: time and timing. In other words, the *time* it takes to get a project underway, and how quickly you can absorb your product and sell it to someone else, as well as, *timing* as it relates to the cost of capital that you bear.

From 1995 through 2010, 83% of the golf courses delivered were within a master plan community, 11% were stand-alone golf courses, and the remaining 6% were government or municipal projects. In the next cy-

Figure 1. From 1995 through 2010, 83% of the golf courses delivered were within a master plan community.



cle of residential development, one vital fact for consideration is that 91% of home purchase decisions are made by a female. An important characteristic related to a female making this decision is that women are more deliberate and cautious buyers. Also, developers have started to understand that women pay attention to environmentalism and want to live in communities that are safe, use water properly, and routinely do the right thing as far as Mother Earth is concerned. For those in the 57 to 62 age cohort, many believe this is the last home they will ever buy. They tend to look at the home 10 to 12 times compared to a normal home buyer who looks at a home three to five times before making the decision to buy or not.

Developers are indifferent about the oversupply of

golf courses and consistently include golf in the master plan because it helps sell property. Their focus is on serving shareholders, and this is achieved by including amenities that cause homes to sell at a higher price and faster pace. Home sales are driven by attractive views. For example, views of water edges or shores where life happens are more popular than views of water that goes on for miles. In addition, long views help sell homes, so if you are building along the front range of the Rocky Mountains, you do not need a golf course if there is a view of the mountains. Last, women are shopping for a property that provides a social platform for life. They are looking for the 'Four Fs' – Fun, Friends, Family, and Fitness.

Development Questions Concerning Water

Among the water-related questions that must be addressed by a development project are the cost to access water, or how do you go about getting water? Second, what is the cost to deliver and secure water? These are macro calculations that occur before the developer buys the land. If water cannot be accessed and secured for the golf course, or the cost of delivery is so expensive that it trumps land cost, then the project does not move forward. A third consideration is the cost of water infrastructure, in other words, the water is available but what will it cost to get it from the source to the development? Fourth, what are the ongoing and recurring capital costs of delivering water? The further water has to be transported, the greater the cost—a cost that has to be charged to the homeowner association fees to keep the community alive. Next, what is the allocation method for the costs that go into the common cost pool? The common cost pool is allocated out to every lot in the development, and the design characteristics that go into the common cost pool must be addressed.

In order for a project to succeed in the long-term, a developer needs to know what entity owns or controls the water supply. How long will the secured water supply be available? What is the backup water supply? How does one shop for water resources? In the next cycle of home development, there will be a lot of shopping for water resources.

Operational Impact from Water

The three viewpoints by which golf operators analyze water include availability, cost, and quality. The recent weather patterns in the U.S. have impacted the availability of water. Around 65% of the country is in a drought, and 21% is in extreme drought. This widespread drought has caused the cities and municipal water utilities to rethink how they manage water. Water restrictions are becoming commonplace, and golf operators expect them to become mandatory, particularly

Figure 2. Golf courses help sell real estate and developers are indifferent about the oversupply of courses.



for the Southwest. Also, water use regulations that restrict the amount of water golf courses can withdraw from wells are being implemented across drought stricken areas.

From a water cost standpoint, the financial issues that cities face have caused them to raise prices. Water prices have increased 25 to 50% over the last few years and many golf courses cannot afford to use water as they did in the past. In some areas, recycled water is the same price as potable water. There some golf courses in the Nevada, Arizona, and California that spend a million dollars per year for irrigation water. A serious financial problem exists where the cost of water is increasing faster than the rate of increase in golf course revenue. From a water quality standpoint, 46% of golf courses draw their water from wells on the property. As the water is depleted from aquifers, the quality of the water tends to decrease. For example, the droughts in Texas have resulted in additional costs to treat well water, as well as expenditures to utilize turfgrasses that can tolerate higher salt and bicarbonate levels.

Over the last few years, the economic recession also placed many financial pressures on golf course owners. The economics of spending \$10 million to build a golf course does not work by itself, and therefore, most golf courses will still be built as an amenity to sell real estate, or by municipalities as parks and recreation departments expand access for local taxpayers. Golf is a very labor and capital intensive business with relatively low operating margins. Golf operations have high fixed costs to set the course up for play each day. Whether the course has one round or 300 rounds per day, the superintendent is required to spend the same amount to prepare the course. In the midst of a recession, the eco-

conomic pressures on golf course operations have caused several courses to close. However, the revenue decline for the golf industry has been less than other hospitality, retail, or consumer oriented businesses. The positive story to tell about golf is that it will be here in the future because so many golf facilities survived the tough economic conditions of the recession.

Due to the economic recession, the successful golf course operations have had to rethink or reset how they operate. The golf course superintendent has had to take most of the budget cuts since the golf operations budget is the largest for most facilities. Some golf course owners have reduced costs very strategically; however, several have not and they are paying a price for this mistake. A slow recovery is taking place and courses that made good strategic decisions to weather the recession are taking market share from courses that made poor decisions. The combination of water availability, cost, and quality has had a particularly profound impact on how golf course operations survived both the drought and the economic recession.

Golf Course Owners Must React

Golf course operations have reacted to the drought and economic recession by changing how the golf course is managed. First, many courses have reduced the number of acres of turf that are maintained and irrigated. Turfgrass is being replaced in the rough and out-of-play areas of the course with natural or low maintenance vegetation. The creation of natural areas actually helps give the golf course more character if done correctly. As less turf is being maintained, less is being spent on pesticides and fertilizers. Second, there is an increased focus on the irrigation practices on golf courses. Irrigation audits have revealed how much water is being wasted on some areas of the golf course, and new, high technology sprinkler heads allow better accuracy and distribution to play areas. Soil sensors have demonstrated to golf course superintendents that they can reduce water use by 20% and maintain healthy turfgrass for golf. In addition to reducing water, several courses are switching to recycled water.

Both superintendents and golfers are being educated about the advantages of maintaining golf courses with firm and fast conditions. Wet and soggy conditions may produce lush, green turf; however, these conditions are not good for the game of golf. Cultural practices are being implemented to improve the ability of turfgrass to survive periods of drought, heat and excessive humidity. Poor agronomic practices that lead to unhealthy turf make golf courses much more vulnerable to weather extremes. Golf course budgets are now being divided into agronomic and detailing budget categories. Even though budgets are tight, golf courses cannot cut back on the agronomic practices that produce healthy turf.

Budget adjustments must be made on the detailing of the golf course.

Different turfgrasses are being evaluated for use on the golf course. For example, in the Mid-Atlantic region of the country, bentgrass fairways are preferred; however, with high summer heat and humidity many courses are turning to zoysiagrass or bermudagrass for fairways. Seashore paspalum has worked in drought stricken areas in the south that have to use poor quality water. Most golf course owners feel that the technology, grasses and agronomic practices are available to help make better decisions on how to reduce water use on the golf course. The biggest obstacle facing golf course operations is the perception of golfers concerning what is the appropriate turf condition outside the fairway. In the U.S., golfers believe the course should look like Augusta National and not St. Andrews. We no longer can afford to maintain our golf courses with wall-to-wall, lush, green grass all year long. In drought stricken areas, golfers are starting to accept well maintained greens, tees and fairways, with tougher, rough areas receiving no irrigation. Homeowners that live around the golf course represent an even larger obstacle when it comes to water management.

An even larger obstacle is the homeowners that live in homes around the golf course. When the golf course decides to brown-out some rough areas or establish native plants, homeowners often complain and even sometime threaten with litigation.

Where Help Is Needed

Golf course operators need the help of the allied golf associations to help educate the golfer about appropriate turf conditions. In other words, a golf course should provide quality greens, tees and fairways, but once outside of these areas a more natural landscape is acceptable. Homeowners and homeowner associations need to be educated so they understand that natural areas save resources and are environmentally responsible. Continued education is needed for golf course superintendents regarding the best practices necessary to maintain healthy turf that plays firm and fast. Also, there is a need to communicate with legislators at the local, state and federal levels to maintain a level playing field for the golf business.

Forward-Looking Trends for Golf Development and Management

To summarize, there are six trends relative to water that golf development and management will have to deal with in the future. First, water supply will be progressively more difficult to secure. This is particularly true in the Southwest where population growth has outpaced the available water resources. Second, the stor-

age costs of water will continue to increase in the future. An increase in reservoir capacity translates to more acreage needed or more earth moved during project development. Third, developers must secure alternative deal structures and financial sources to initiate and complete projects. Before a shovel is put into the ground, the wide range of investors involved will require an exit strategy concerning the golf amenity. The developer and investors do not want to be saddled with subsidizing a golf course operation in the long term.

The fourth trend is the need for a change in the golf course design and features to meet the challenge of increasing maintenance costs and scarce resources. New golf courses are being designed better, but older courses need to be remodeled to reduce turfgrass acreage, decrease the areas irrigated, use more natural vegetation, as well as reduce the number of bunkers or other high maintenance features. Help is needed to identify plants for out-of-play areas that look good, are

low maintenance, and acceptable to golfers and homeowners. A fifth trend is that areas of the country which are the most prone to growth (FL, NV, AZ, CA, and OR) tend to be unfavorable markets for golf with scarce water resources. However, a new dynamic on where people retire is their effort to be close to children and grandchildren. It is very possible that population growth in the future may be in areas where water is more abundant.

Finally, is 'brown' the new 'green'? In the past, developers have promised paradise which had to be green; however, acceptance of brown landscapes will depend on market, consumer segment, and what the end user is seeking. Developers will be effective when they can truthfully point to the fact that the development is a fantastic, natural destination that conserves scarce resources. The golf industry needs to change the mindset of golfers and homeowners about what is a beautiful and natural golf course.